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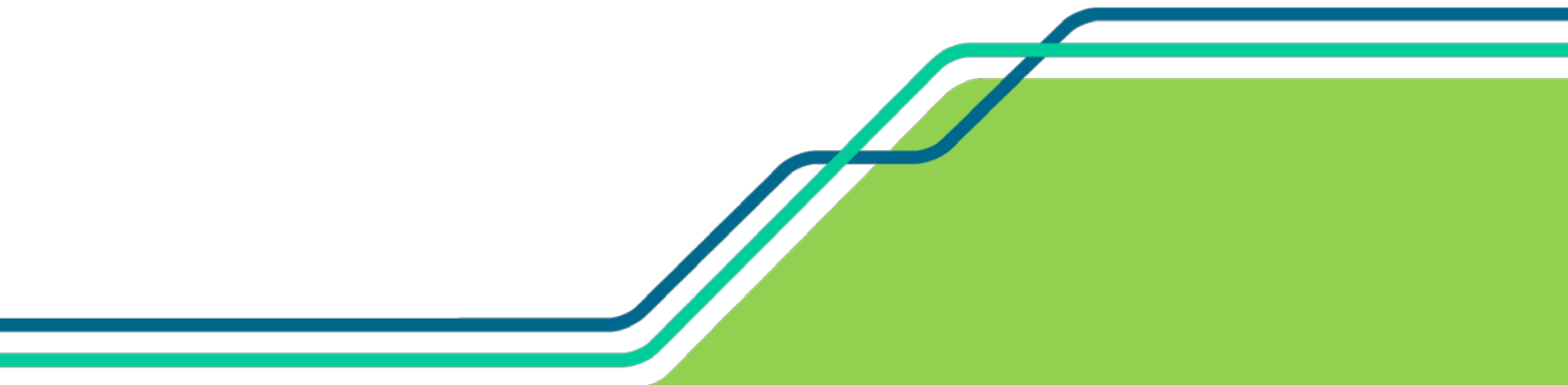
AUSTRALASIAN RAILWAY ASSOCIATION SUBMISSION

To

The Productivity Commission

On

Public Infrastructure



THE ARA

The Australasian Railway Association (ARA) is a not-for-profit member-based association that represents rail throughout Australia, New Zealand and Indonesia. Our members include rail operators, track owners and managers, manufacturers, construction companies and other firms contributing to the rail sector. We contribute to the development of industry and government policies in an effort to ensure Australia's passenger and freight transport systems are well represented and will continue to provide improved services for Australia's growing population.

The ARA thanks the Productivity Commission (the Commission) for the opportunity to provide this submission to the *Inquiry into Public Infrastructure*. For further information regarding this submission, please contact Staff Rhianne Jory, Associate Director Environment and Regulation via rjory@ara.net.au or 02 6270 4504.

Facts And Figures – Australian Rail¹

- Australia's rail network is the 6th largest in the world with almost 45,000 kilometres of track, 1,800 locomotives and 32,000 wagons and carriages. Melbourne's 250 km tram network is the largest in the world.
- The transport sector represents about 4.7% of Australia's GDP.
- In 2013, rail provided more than 784 million journeys: 601 million by heavy rail, 166.5 million by light rail and 16.5 million by regional rail. This equates to over 15 million journeys each week.
- For freight, rail carries around 929 million tonnes of goods and materials annually, a 61.5% increase since 2003.
- The transport sector is the third largest source of greenhouse gas emissions (GHGs) in Australia, contributing almost 20 percent of Australia's net emissions. However, rail produces 40% less carbon pollution than road travel for each kilometre travelled by a passenger and for freight, road freight produces more than seven times as much carbon pollution per tonne kilometre as rail freight.

¹ ARA, Australian Rail Industry Report (2013) and ARA and Deloitte Access Economic, True Value of Rail (2010)

Key Recommendations

In this submission, the ARA recommends the following:

1. Governments must produce a consistent and long term pipeline of high quality transport infrastructure projects that can be brought to market.
2. Governments must ensure that projects are suitable for private sector involvement either from the beginning of the project or over the period of the project. Funding and financing models used must also matches the project objectives and aspired outcomes;
3. Funding and financing roles of the governments (all levels) and the private sectors must be clearly defined so the market/funding/financing gaps can be easily identified;
4. Introduce and implement value capture or transit oriented development as part of public transport infrastructure project;
5. Governments must encourage greater use of Public Private Partnerships including reducing the costs of delivering PPPs, reforming bidding and procurement processes, and continuing to develop the PPP model to allow it to be used in more sectors;
6. Support the development of markets to expand the ways private sectors can invest in infrastructure including encourage greater involvement from the superannuation sector, promote privatisation to develop demand for longer term debt and improve liquidity in the Australian bond market;
7. Adopt user pays and accelerate reform of road pricing and review transport subsidies;
8. The Australian Federal Government, through Infrastructure Australia, should fund the development and ongoing implementation of a detailed benchmarking framework for major infrastructure projects in Australia; and
9. The Commission to conduct a review of regulatory burdens on business particularly on the transport sector and make recommendations to governments on key areas for reform.

The Inquiry's Terms of Reference

The ARA agrees with the Commission's statement that public infrastructure plays a key role in a competitive and productive economy and that ongoing funding and financing is of critical importance. The ARA also appreciates that the capacity of government to meet funding expectations to improve infrastructure is often limited, thus great relevance should be placed on the opportunity to use alternative financing options involving the private sector.

Going forward, Australia has a significant challenge to ensure that transport infrastructure keeps pace with population and economic growth and helps boost the nation's productivity. Our population is expected to grow from 23 million to 38 million by 2050 and our cities will be doubled in size. The freight task is forecasted to double by 2030. Productivity growth of at least 1.6% a year is required to maintain the growth in national income. Efficient and effective transport infrastructure is mandatory to keep pace with these changes.

A number of reports from both governments and private sectors show that there is no shortage of private capital to achieve the infrastructure Australia needs. The key action for the governments and others involved is to create an environment for private investment in infrastructure. This includes designing public infrastructure projects to be suitable for private investment either from the commencement of the project or over the period of time.

The ARA acknowledges there are no easy solutions to improve infrastructure provision for the future. To achieve the environment we need for private sectors to invest in our infrastructure, all stakeholders must work together to ensure that the policy settings are right. Infrastructure funding and financing policies must align with effective infrastructure planning, prioritisation, delivery, maintenance and operation.

The Importance of Transport Infrastructure

The ARA agrees with the Commission that efficient public infrastructure such as transport infrastructure plays a key role in a competitive and productive economy. Access to reliable and affordable public infrastructure also has an important role in meeting social and environment objectives. Passenger and freight rail offers a number of benefits including the ability to:

- Reduce traffic congestion;
- Improve urban amenity;
- Help communities achieve their environmental goals;
- Promote public health; and
- Reduce social isolation.

Deloitte Access Economics found that each journey made by passenger rail instead of road reduces congestion, accident and carbon costs to the Australian economy between \$3.11 and \$8.41 in total depending on the cities.² For freight, the study shows that if rail was to achieve a 40% share of the North-South freight corridor along the east coast of Australia, the savings would reach around \$250 million a year.

For more details of the above benefits as well as information on advantages of passenger and freight rail, the ARA urges the Commission to refer to the *True Value of Rail* report (Deloitte Access Economics, 2011) as well as the ARA's submission to the Rural and Regional Affairs and Transport Reference Committee's *Inquiry on Investment of Commonwealth and State Funds in Public Passenger Transport Infrastructure and Services* (2009) available on the ARA website (www.ara.net.au).

Further to this, using public transport such as rail also eases the high costs of living. According to the Association's recent study, *Commuter costs and potential savings: Public transport versus car commuting in Australia*³, to own and commute to work in the CBD five days a week by car, costs the average Australian commuter between \$7,432 (5km from the CBD) and \$14,639 (25km from the CBD), or an indicative average cost of \$11,031 each year.

Focusing on commuters travelling to the CBDs in Sydney, Melbourne, Brisbane, Perth, Adelaide, Canberra and Hobart, the study also found that if Australian commuters decide to retain their car but take public transport to work in the CBD, the annual cost drops to an average of \$5,541, a saving of \$5,490 (or 50 per cent) compared to driving five days a week. Sydney and Perth commuters can expect the most significant cost savings, averaging \$8,232 and \$8,141 per year (or 62 per cent and 60 per cent savings) by leaving their car at home.

These higher savings are a reflection of the CBD parking charges but also the relatively cheap public transport costs currently in Sydney and Perth. Sydney and Perth are followed by Melbourne and Brisbane commuters, with similar significant cost savings ranging from \$6,402 to \$5,688 per annum. Adelaide, Canberra and Hobart commuters, meanwhile, can expect more moderate savings by leaving their car at home averaging savings of \$3,238, \$3,516 and \$3,214 respectively per year.

² Deloitte Access Economics, *True Value of Rail*, 2010

³ Australasian Railway Association, *Commuter costs and potential savings: Public transport versus car commuting in Australia*, 2013

Further, if Australian commuters do not own a car or choose not to purchase a second car and instead commute by public transport to work in the CBD, the annual commute costs drops to an indicative average of \$1,607. This figure excludes travel costs to and from a bus or train station and the potential parking costs at park and ride facilities but can result in an indicative saving of \$9,425 (a massive 85 per cent) compared to owning and using a car to commute to work. Again, Perth and Sydney commuters can expect the highest cost savings, averaging a saving of \$12,011 and \$11,946 respectively per annum.

These high savings are a reflection of high vehicle running costs and parking costs, coupled with relatively cheap public transport costs in Perth and Sydney. Similar cost savings have also been identified in Melbourne and Brisbane, ranging from \$10,234 to \$9,680. Even in Adelaide, Canberra and Hobart, significant cost savings (\$7,463, \$7,348 and \$7,291 respectively) can be expected for commuters that do not own a car or choose not to purchase a second household vehicle and instead commute via public transport five days a week.

On account of the longer distances commuters are required to travel, on average, commuters living in the outer suburbs of capital cities incur higher costs and therefore also have the potential for higher savings by shifting to public transport than those living in inner areas. The potential savings also depend on the type of vehicle a commuter owns and drives. Due to higher running costs, commuters who drive large vehicles such as SUVs can achieve more significant savings by changing to public transport than those driving light and small vehicles.

Funding Mechanisms for Infrastructure

As noted in a previous submission to the Commission, the ARA has developed a paper titled *Innovative Funding and Financing for Public Transport: A review of alternative, sustainable funding and financing sources*. Although the paper specifically focuses on the funding and financing of public transport infrastructure, the identified strengths and weaknesses of various tools that are examined provide key findings that can be linked to the funding and financing of various forms of major public infrastructure. The paper was developed on the basis that the Australian government (like many others around the world) cannot afford to continue funding

infrastructure. With an infrastructure backlog costed at \$300 billion⁴, governments of all levels need further innovation in order to fund and finance infrastructure projects. This paper highlights innovative methods of funding and financing that could be implemented to ensure long-term investment in Australian Infrastructure.

In this submission, the ARA outlines two funding mechanisms discussed in the Commission's report. These include value capture and superannuation funds. The submission then analyses the suitability of PPP's for different projects, and suggest alternative methods in instances where the PPP method is less suitable.

User Charges

With respect to user charges, the Commission should note that the ARA has made a separate submission to the Commission in conjunction with its members specifically focussing on user charges and heavy vehicle charging. The submission argues that road user charging using a mass-distance-location approach for heavy vehicles with funds hypothecated to roads for planned improvements will improve freight productivity for Australia.

Value Capture

Globally, public transport has been found to have a positive influence on property and land prices. Recognising this, value capture is a funding tool, also known as a betterment tax, used to recoup part or all of the increase in property values initiated by infrastructure improvements. The size of the property value increase will depend on the proximity to the transport offering, the mode of transport, quality of service and alternative transport options available in that area⁵. Locally, properties close to rail lines are typically valued 20-25 per cent higher than those that aren't⁶ and in East Asia, studies have found that a 10 per cent increase in distance from a public transport station reduces property values by approximately 1 per cent⁷.

The two common models of value capture are:

⁴ Infrastructure Australia, *National Infrastructure Plan*, June 2013

⁵ Infrastructure Australia, *Infrastructure Finance and Funding Reform*, April 2012

⁶ ADB and Institute for Transportation & Development Policy, *Opportunities for value capture to fund public transport: A comprehensive review of the literature with a focus on East Asia*, publication date unknown.

⁷ Ernest & Young, *Land value capture as a funding source for urban investment – The Warsaw Metro System*, 2011.

- *Tax Increment Financing:* where a certain increase is forecast within a region or district around the development and a certain percentage, or increment is agreed to be levied to fund the infrastructure investment. This approach is predominantly used in the United States and is explored in the Downtown Kansas City section.
- *Joint Property Development:* when a government partners with infrastructure developers and allows the developer to recoup the value capture through its own property development as a revenue source to fund a specific transport projects or to reinvest in the system. Hong Kong is an example of joint property development value capture.

Case Study - Hong Kong

Unlike most public transport systems in the Western world, Hong Kong’s metro is not subsidised by its Government. Instead the system operator is self-funded through the fare box, commercial station retail rent and residential and commercial property developments, using a combination of joint property development value capture and transport oriented developments.

First announced by the government in 1973 with an initial cost of HK\$ 500 million, by 1982 the Hong Kong metro system was already generating a profit, partly due to the increase in land value along the metro line⁸.

Land in Hong Kong is nationalised, or owned by the State. MTR Corporation, who operate and manage the system have adopted a “Rail+Property” approach to fund investment in the metro. In a joint property development approach to land value capture, MTR leases land adjacent to its rail extensions from the government and then develops the land either into commercial or residential properties (or a combination of both). MTR pays the government the value of the land without the rail line, allowing the corporation to capture and profit from the value the rail expansion generates.

In 2012, in addition to its residential and commercial properties, of which the commercial station rental contributed 16 per cent of the company’s revenue⁹, MTR held a property investment portfolio of 13 shopping malls and 18 office floors of the two International Finance Centre (“Two ifc”) office towers, generating HK \$3.2 billion per annum.

⁸ Ernest & Young, *Land value capture as a funding source for urban investment – The Warsaw Metro System*, 2011

⁹ MTR Hong Kong, *Sharing our Growth Annual Report 2012*

Case Study - Downtown Kansas City

After unsuccessful attempts to fund a city-wide light rail network, the Kansas City local government established the Transportation Development District (TDD), an area around a proposed two-mile streetcar route that was identified to directly benefit from the project. The local government then put a land value capture, or “real estate tax” within the TDD up for public vote. On 12 December 2012, residential and commercial property owners within the TDD voted in favour of land value capture to contribute funds towards the construction of the Downtown Kansas City Streetcar. 319 voted yes, 141 voted no¹⁰. A 1 cent sales tax within the TDD was also approved. According to the Kansas City Streetcar project website, 75 per cent of the project’s costs will be funded through innovative local public and private funding. The revenue from the TDD value capture and sales tax will be used to cover net operating and maintenance costs¹¹.

The Kansas City Government had previously put the vote to the entire City unsuccessfully but identifying the specific region that will benefit from the two-mile streetcar achieved a 60 per cent support in funding assistance and has permitted the project to proceed.

Case Study - Local levies

Sydney and Melbourne have both previously implemented a land value capture tax, or “betterment levies” to fund infrastructure. Most recently, the Gold Coast has introduced a land value capture tax to assist in the funding of the Gold Coast Light Rail line.

Introduced through two Acts in 1970, the NSW State Planning Authority was authorised to implement a 30 per cent land value increment levy on land that was rezoned from rural to urban uses within the Sydney metropolitan area. The tax was hypothecated for urban works and services within the new urban areas and used to fund sewerage works and metropolitan infrastructure investment to accommodate the expansion of Sydney. By 1972/73, the betterment levy had successfully generated \$9 million and yet the legislation was repealed in

¹⁰ <http://dnakcmo.org/streetcar.html>, sourced 08.08.13

¹¹ www.kcstreetcar.org/about-kc-streetcar.htm, sourced 08.08.13

1973 just prior to a state election under the guise that it was affecting land prices during a time of severe housing and land shortages¹².

In addition to this, one third of the construction of the Sydney Harbour Bridge was funded through a betterment tax imposed on landowners north and south of the harbour who were recognised as beneficiaries of linking the city and Sydney’s North Shore. The levy was imposed for 15 years at 0.2 per cent on the unimproved capital value of the lands.

In Melbourne, a “benefited area levy” was introduced to contribute to the funding of the City Loop which commenced construction in 1971 and was completed 10 years later¹³.

Most recently, to help fund the first stage of the Gold Coast Rapid Transit Light Rail Line, the Gold Coast Council introduced a \$111 annual transport improvement levy that will see contributions from ratepayers who own property in the vicinity deemed to “benefit” from the construction of Gold Coast Light Rail line¹⁴.

Case Study - Jubilee Line Extension, London

London Property Developer Don Riley penned a book “Taken for a Ride” in which he reviewed the construction of the London Underground’s £3.5 billion Jubilee Line Extension which linked Central London with East London.

The underground rail line extension was fully funded through government general revenue without any of the value the line provided to local property owners recouped. In his book, Riley estimates that in the 10 years (1992-2002) following the extension, properties within a 1000 yard radius of the new underground stations increased in value by approximately £13 billion. This has become a common example of why governments should consider value capture as a mechanism to fund major transport infrastructure investment.

Local opportunities

Value capture has a long and successful track-record of funding public transport infrastructure and supporting public transport services around the globe. Locally value capture could be

¹² Phil Day, Griffith University, *Incentives and disincentives: The potential of property taxes to support public policy objectives*, January 2005

¹³ Grattan Institute, *Can we afford to get our cities back on the rails?* December 2012

¹⁴ www.melbourne.org.au/cms-commentary/media/editorials, sourced 15.08.13

utilised to fund or contribute to the funding of the high speed rail line along Australia's East Coast. The Government could acquire more land than is required for the corridor and then sell the land back to developers. Public transport providers in Australian cities could also collaborate with real estate agencies and property developers to capitalise on the heightened value improved public transport services will provide for property values.

Relating closely to the value capture mechanism is Transit-Oriented Development. Details of this type of development are provided below.

Transit-Oriented Developments

Transport or transit-oriented developments (TODs) are increasingly popular commercial, residential and retail spaces located at or within walking distance of transport hubs that are used to generate revenue to fund or support transport investments whilst stimulating urban growth. TODs can be newly constructed or redevelopments of existing structures. Similarly, air-rights to construct a TOD above a station can be sold to property developers as a means to fund a transport development. Alternatively, the transport operator or authority develops and manages a TOD to provide ongoing funding for the transport system. TODs are extensively used throughout Asia and are acknowledged as a primary funding source that negates the need for government subsidies of Hong Kong's metro system.

As well as providing a long-term funding mechanism to support transport operations, TODs are also seen as a successful tool to increase public transport ridership.

Case Study - Hong Kong

MTR Hong Kong credits its long-term success on its integration of rail and property development. According to the MTR website, "our use of transit-oriented development enables us to self-finance our day-to-day railway operations, establish reasonable fares and ensure sustained patronage of the system"¹⁵. A review of the Hong Kong metro system and 25 of its TODs in 2010 found that an MTR station with a TOD added around 35,000 weekday passengers to the system¹⁶.

¹⁵ www.mtr.com.hk/eng/sustainability/2012rpt/busi-overview.php, sourced 15.08.13

¹⁶ Hong Kong IQP, *A Comparative Study of Transit-Oriented Developments in Hong Kong*, February 2013

The Tung Chung Station Development is just one of MTR’s many TODs. Planned in 2007 to accommodate 108,000 people, the initial development was such a success that in 2012 the Tung Chung New Town Development Extension was introduced to expand the new town to accommodate 220,000 people¹⁷. The Tung Chung Station Development currently includes three sites combining high-rise and low-rise buildings that are linked by elevated walkways¹⁸. The development includes 32 high-rise residential blocks which offer a variety of housing types and sizes; approximately 56,000 square metres of dedicated retail space, including a major shopping centre; a 15,000 square metre office tower; a 440 room hotel with conference facilities and restaurants; more than 3,800 car parking spaces as well as landscaped open areas, a wet market and four kindergartens¹⁹.

Case Study - San Francisco Bay Area Rapid Transit

The San Francisco Bay Area Rapid Transit District (BART) runs a 104 mile rail system with 43 train stations spread through four counties. In July 2005, to increase ridership, secure annual revenue, reduce taxpayer subsidies, improve connections with the community and create a more liveable community, the BART Board of Directors adopted a Transit-Oriented Development Policy²⁰.

As a result, the San Francisco BART is currently engaged in 18 TOD projects at its stations, representing over \$2.7 billion in private investment and is in negotiations for another 7 valued at \$1.15 billion²¹.

Strengths and Weaknesses

TODs have a proven record at generating significant funds that can be reinvested in public transport. As well as providing ongoing sources of revenue for transport services and infrastructure investment, TODs have been shown to encourage public transport patronage and reduce road congestion by encouraging people to walk and ride public transport instead of drive.

¹⁶ Civil Engineering and Development Department, *Tung Chung New Town Development Extension Project Profile*, July 2012

¹⁷ www.mtr.com.hk/eng/properties/prop_dev_tc.html, sourced 15.08.13

¹⁸ www.mtr.com.hk/eng/properties/prop_dev_tc.html, sourced 15.08.13

¹⁹ www.bart.gov/about/business/development/, sourced 15.08.13

²⁰ www.bart.gov/docs/BART_TOD_121510.pdf, sourced 15.08.13

²¹ US Department of Transportation, Federal Highway Administration, *Technologies That Enable Congestion Pricing*, date unknown

Local opportunities

Although TODs do exist in Australia, there is scope to expand the number of these developments. Local governments could follow Hong Kong and San Francisco's examples and establish property developments around transport hubs to help provide long-term revenue for transport infrastructure and service investment. These could either be sold as "air rights" or given to property developers to manage or public transport operators could diversify as has been done in Hong Kong and San Francisco where the public transport operator manages the developments.

Going forward, the ARA recommends the following:

1. the use of value capture to fund or contribute to the funding of public transport improvements; and
2. further implementation of TODs to provide supporting revenue for public transport systems in Australian capital cities.

Unlocking Superannuation Funds

Using private superannuation funds to finance infrastructure projects is not a new concept. Super funds have been directly and indirectly drawn upon to finance infrastructure projects in Australia for many years. Some examples include the Lane Cove Tunnel and Cross City Tunnel in NSW, Port of Brisbane, Adelaide Airport and Melbourne Airport.

The superannuation industry has experienced significant growth in recent times growing by around 92 per cent from \$637 billion in 2004. The projects outlined above are a good indication of the move by the Australian and State governments to embrace superannuation funds as investors in infrastructure projects. However, the investment to date only constitutes a small amount of total superannuation fund based assets which are estimated to be around \$1,225 billion.²²

According to the Association of Superannuation Funds of Australia (ASFA), the actual range of investment by a super fund depends on a number of factors. Some do not invest in infrastructure while others may invest over ten per cent of their total assets. General allocations

²² Ernst & Young, Financing Australia's Infrastructure Needs, Financial Services Council, 2011

range between two to over ten per cent of the assets.²³ Data reveals that at present, specialist infrastructure investment managers manage about \$48.8 billion.²⁴

Ernst and Young stated in a recent report that only a small amount of the super fund's total assets are allocated to infrastructure projects.²⁵ As banks' appetite for infrastructure funding continues to decrease, superannuation funds are becoming an even more lucrative source of financing. If Australia is to continue its economic growth and international competitiveness, it is imperative that superannuation funds assume a greater role in infrastructure investment.

In Australia, the structure of superannuation is mostly based on the defined contribution model where the retirement benefit is an accumulation of employer and member contributions to the super fund. The implication of this structure is that most assets are on stand by and there is a need for balance between liquidity and long term investments.²⁶ This type of superannuation structure is very well suited to the long term nature of infrastructure investment.²⁷

When determining which stage of project lifecycles to invest in, super funds will look at the type and allocation of risks as well as the availability of capital in the market and the project's return of investment (including the performance of similar projects). This is essential as the primary objective of superannuation funds is to provide retirement incomes to beneficiaries. Therefore, it is also essential that superannuation products match the income needs of its members. This requirement means that there must be a good rate of return on investment that is sufficiently attractive for super funds to invest in public transport infrastructure. Examples of risks mentioned in infrastructure projects include high bid costs and risks associated with the tender process, construction risk and the fluctuation of the level of patronage and general operational risks.

Barriers to Success

There remain a number of barriers that prevent superannuation funds from investing in Australian infrastructure. Accordingly to ASFA, one of the key factors that may limit the total

²³ ASFA, Investing in Transport Infrastructure Discussion Paper, September 2012.

²⁴ ASFA, Investing in Transport Infrastructure Discussion Paper, September 2012.

²⁵ Ernst & Young, Financing Australia's Infrastructure Needs, Financial Services Council, 2011

²⁶ Ernst & Young, Financing Australia's Infrastructure Needs, Financial Services Council, 2011

²⁷ The Hon Anthony Albanese, 'Superannuation Funds Wary of Rudd's Nation-Building Plan', the Australian, 17 October, 2008.

amount that superannuation funds can invest in infrastructure is liquidity.²⁸ While a large number of listed Australian companies invest in infrastructure assets, most PPP investments are structured as unlisted investment vehicles. Super funds benefit from an 'illiquidity premium' that increases the rate of return on investments. However, due to the current Australian's fund rules which enable a super fund to transfer its superannuation from one fund to another, in order to maintain sufficient liquidity to meet withdrawal needs, only a portion of a super fund's investments can be in unlisted assets.²⁹

Furthermore, a super fund also has to be reasonably large to achieve sufficient diversification when investing in infrastructure and/or needs to invest through a consortium to help extend the risks of any one investment.

Other barriers are also outlined below:

- Inconsistent, complex and expensive bidding process (explained in detail below) - the complexity and costs of bidding for major projects, particularly PPPs, has become a major impediment to market entry in Australia. Few private companies, including superannuation funds have the financial capability to be involved in tender processes that require significant upfront investment, without guarantee of success. Even though governments have worked to address this problem, more work is required.
- A lack of clear project pipelines and government commitment is also a key barrier for private sector investment. The changes in government priorities lead to delayed and cancelled projects which in turn impact on the risk profiles, project costs and the rate of return on investment for the private sector. For institutional investors such as superannuation funds to make large investments, there must be certainty around future project pipelines, specifically around the funding sources and commitment of the sponsor government.
- A recent survey shows that the super funds industry has a view that governments have difficulty understanding all superannuation fund investment is done for the benefit of their members and not on social good.³⁰ Therefore, all investments must earn a return that match with the assessed risks. The super industry believes that current project risk profiles have not been designed to encourage efficient institutional investment.

²⁸ ASFA, Investing in Transport Infrastructure, September 2012

²⁹ ASFA, Investing in Transport Infrastructure, September 2012

³⁰ Ernst & Young, Financing Australia's Infrastructure Needs, Financial Services Council, 2011

To effectively address these barriers, the ARA recommends the following:

1. Governments must produce a consistent and long term pipeline of high quality transport infrastructure projects that can be brought to market.
2. Governments must ensure that projects are suitable for private sector involvement either from the beginning of the project or over the period of the project. Funding and financing models used must also matches the project objectives and aspired outcomes;
3. Funding and financing roles of the governments (all levels) and the private sectors must be clearly defined so the market/funding/financing gaps can be easily identified;
4. Governments must encourage greater use of Public Private Partnerships including reducing the costs of delivering PPPs, reforming bidding and procurement processes, and continuing to develop the PPP model to allow it to be used in more sectors;
5. Support the development of markets to expand the ways private sectors can invest in infrastructure including encourage greater involvement from the superannuation sector, promote privatisation to develop demand for longer term debt and improve liquidity in the Australian bond market;

Improvements to PPP's and Alternative Methods of Finance

Incentives to shift risk problematic for PPP

The ARA agrees with the Commission's findings that overall project costs have been increased due to inefficient allocation of risks within project agreements due the inappropriate use of PPP's. This has been most evident in the case of demand risk on toll road projects. Consequently, recent Australian PPP's involving economic infrastructure has not sought to transfer demand risk to the private sector.

It is not just demand risk that has caused heavy losses on PPPs. Design & Construct (D&C) contractors have also incurred significant losses as a result of construction risks on PPPs. As a result, contractors are increasing pricing for, or refusing to accept, some construction risks in order to achieve the optimal value for money risk allocation. Overall, the shifting of risks within the PPP model can result in major increases in prices for infrastructure projects.

The Clayton UTZ paper '*Improving the outcomes of public private partnerships*' suggests that PPPs should only be used for certain project types which involve certain circumstances. The paper outlines the following circumstances in which a PPP is the best suited delivery model:

- If the project involves infrastructure and services which are likely to be required for the duration of the contract;
- The infrastructure and services are unlikely to change significantly during the term of the contract, or any changes can be predicted and priced up front;
- The project involves risks which cannot be transferred to the private sector under alternative deliver models (e.g. Demand risk), but which the private sector is prepared to take at a price lower than it would cost government to manage the risk itself;
- The project is complex or unique, and therefore likely to benefit from the additional due diligence which private sector financiers will perform; and
- The project is of sufficient size (e.g. the capital cost exceeds \$100 million) to justify the transaction costs associated with the PPP.

The ARA believes that there are a number of ways that PPP framework could better represent the interests of long term investors, such as:

1. PPPs should be designed to address the potential for additional long-term investments in asset. For example, this could be in the form of establishing corridors in respect to future rail expansion. It is difficult and expensive to try to retrofit investments in the future and this detracts the long-term social and economic benefits that the infrastructure assets can deliver; and
2. PPP frameworks should also factor in sustainability considerations. As long term investors, superannuation funds take long term integrated environmental, social and governance factors into their investment decisions. There are a number of ways that this can be achieved including using various green rating tools developed for infrastructure.

In summary, the ARA recommends that:

1. Governments must encourage greater use of Public Private Partnerships including reducing the costs of delivering PPPs, reforming bidding and procurement processes (outlined below), and continuing to develop the PPP model to allow it to be used in more sectors.

Alternative Methods of Finance

Alternative delivery models may achieve equivalent risk transfer without the higher financing costs under certain circumstances. These circumstances include;

- The project involves the development of infrastructure which is constantly changing, such as information technology and telecommunications projects.

- The project outcomes government desires are not sufficiently certain to enable the private sector to devise and price an infrastructure and service solution.
- The project involves many significant risks which are most efficiently managed collectively (i.e. By government embracing and sharing the risks with the designer, the constructor and the operator/maintainer), rather than by allocating them to a particular party
- The government wants a high degree of control over the service delivery
- The project involves public interest issues best managed by traditional procurement approaches which give government greater control

Design, build and maintain contracts (DBM) act as an alternative delivery method and can achieve similar risk transfer as a privately financed “availability payment” PPP, but without the higher cost of private sector finance. Although the benefit of additional due diligence and monitoring by the lenders and equity investors is lost under a DBM model, it is still possible to create sufficient incentive for the contractor to optimise whole of life costs and perform the maintenance tasks well by ensuring an adequate portion of the DBM contractor’s maintenance fee is fixed and at risk for performance

There are also other delivery methods for infrastructure projects that involve significant risk sharing between government and the private sector, such as alliancing and other forms of collaborative contracting. Properly applied to the right projects, these delivery models can deliver better value for money outcomes for government than privately financed PPPs.

Procurement Practices

The ARA agrees that substantial dividends are to be gained from more efficient procurement practices. Reforms to project scoping and design, appropriate due diligence and probity management, and avoidance or overloading tenders with unnecessary obligations are all areas in which would greatly enhance the efficiency of the procurement process, making overall projects more cost effective.

A major inhibitor to an efficient procurement stage is the nature of bidding costs. The

Commission found that bidding costs can be as high as one per cent of overall project cost. For a project costed at \$5 billion, bidding costs can be approximated to be around \$50 million. For most private sector financiers, this initial cost is too high for a venture which has not even

started. Furthermore, the high bidding costs effectively price out smaller organisations, reducing competition for obtaining contracts by increasing the barriers to entry for smaller players

The Commission's report has also highlighted the obstacles posed by tendering specifications in the procurement stage which contribute to the costly nature of infrastructure bidding costs and procurement. Design costs alone comprise around 50 per cent of the total tender costs. The remaining half of the bidding costs are made up of both the on-costs of the constructor's staff involvement in the process, along with the costs associated with preparing and submitting the other documentation requirements. For a contractor that has been sent a request for tender, documentation relating to a number of non-design issues is also required, including plans to:

- Workplace relations management
- Health and safety management
- Schedule of compliance with various state or national codes of practice
- Industry participation plans

Other plans are also often required, which include:

- Project management plan
- Construction plan
- Community engagement plan
- Enterprise training plan
- Environmental plan
- Earthworks plan
- Indigenous participation plan
- Traffic management and safety plan

Although these specifications are paramount to regulatory compliance and often project efficiency, there are possible avenues in which such compliance and efficiency is obtained but at lower procurement costs.

- The ARA agrees with the commission's recommendation (11.1) that governments should invest more in the initial concept design specification to help reduce bid costs, but in doing so, provide opportunities for tenderers to contest the specifications of the design.
- The ARA also agrees with recommendation (11.2) that governments should consider contributing to the design costs of tenderers on the condition that governments own

the design, where a thorough prior assessment has demonstrated that design innovation is both worth seeking and likely to be received.

- The ARA agrees with recommendation (11.3) that government clients should alter the timing of information provision in the tendering process for infrastructure projects so that non-design management plans are only required of the preferred tenderer. The obligation to produce documents upon becoming a preferred tenderer should remain a condition of the initial request for tender.
- The ARA believes that the Federal Government should establish an independent body that could oversight bids, establish standardised conditions and seek to remove error risk on forecasts out of bidding processes, which leads to an adverse selection process where the consortium with the highest patronage projection is prepared to make the highest bid. This body could sit within Infrastructure Australia as well as State’s Department of Infrastructure, Transport, the Treasury or Finance;

Costs of Rail Construction in Australia

The ARA is currently conducting a comprehensive study into the costs of rail construction in Australia. The study shows a comparison between rail and road construction costs. Current figures from the study are provided in Attachment 1. A full report of the study will be provided on Friday 18 April 2014 as per the discussion with the Commission’s representative.

At this preliminary stage of the study, the ARA has found that, even though both types of infrastructure perform a similar function, in reality they are very difficult to compare. Road and rail projects should be seen as complimentary to one another and not in competition.

Similarities between Road and Rail	Differences between Road and Rail
Linear transport corridors	Rail has narrower construction formation
Dedicated and intrusive	Stations are not needed for road
Creates environment issues	Safety assurance higher in rail
Involves tunnels and bridges and earthworks	More complex systems in rail
Greenfields cheaper than brownfields	Rail needs more complex junctions
	Rail gradients are flatter

For a number of projects that the study is looking at, rail design is generally in the order of 4 to 9% of D & C sell price (including construction phase services and development – greenfields were at the lower end and brownfields were at the high end). Road design is generally in the order of 5 to 8% of D & C sell price (including construction phase services and TOC development).

In both road and rail, the costs of design during bids are high. However indirect costs for brownfield rail projects are typically higher than road, in some cases upwards of 20%. This appears to be due to a number of reasons such as:

- Complexity of planning involved;
- Higher safety standards/more sophisticated infrastructure than roads;
- Commercial drivers put on rail operators;
- Unique regulatory burden placed on rail projects;
- Signalling for rail projects tends to be more complex than road projects therefore may lead to the projects being more expensive. Also, adoption of new technology appears to be simpler in road projects; and
- The Risk profile in multidiscipline rail projects is not well understood, where it seems to be clearer in road projects.

Others factors that lead to high construction costs include³¹:

- Inadequate planning which lead to failure to preserve road and rail corridors – this failure adds a premium to the subsequent costs of providing the infrastructure.
- Condition of regional markets - most cost categories seeing high levels of costs (and high growth rates) in the capital cities.
- Multiple levels of government approvals for planning and environmental impacts – these regulatory requirements add unnecessary cost.

Costs savings are achievable through a number of initiatives from more collaborative procurement, off site fabrication, supply chain efficiencies, adoption of leading technologies such as BIM and an improved focus on innovation.

Building Information Modelling (BIM)

The Commission has found that new technologies to improve 'whole of life' project costing can help lower bid costs and overall construction costs. One such example is Building Information Modelling (BIM) which is a database that provides digital information about the design, fabrication, construction, project management, logistics, materials and energy consumption of a

³¹ Lend Lease, Submission to the Submission to the Public Infrastructure Inquiry, December 2013.

building. Proponents of the technique suggest that BIM has a number of significant benefits, including:

- Improved information sharing
- Time and cost savings
- Improved quality
- Greater transparency in decision making

BIM has most potential for complex construction projects. The key feature of BIM is that it provides a platform to explore the structure of objects and their relationship to each other. It also provides a means to incorporate scheduling of activities during the build phase and allow for costing through the inclusion of cost data.

BIM can allow for any conflicts in various design elements to be discovered prior to them occurring, reducing rework or rebuilding costs. It also provides a means for constructors to better schedule their construction activities, helping to find ways to minimise site costs. It has been suggested that between 60 to 90 per cent of project variations are the result of poor design documentation. Further, it has been reported that between 20 to 30 per cent of the construction cost of complex buildings is made up of costs resulting from coordination errors, incorrect materials and labour inefficiencies.

The ARA agrees with the Commission's recommendation (11.5) that for complex infrastructure projects, government clients should provide concept designs using Building Information Modelling (BIM) to help lower bid costs, and require tender designs to be submitted using BIM to reduce overall costs. Governments should give serious consideration to where in their better practice guides they may specify the use of BIM.

It is important to differentiate between project scoping, pre-tendering procurement processes and client's project oversight that commences after the construction contract has been signed. Some evidence suggests that poor initial cost estimation and then coping errors lead to cost overruns, and that the project management phase generally process well.

Project Data and Benchmarking

Benchmarking can be an extremely effective tool that helps to identify practices that work well and those that do not. Benchmarking to international or other local jurisdictions can help identify persistent levels of inefficiency even if there has been no trend change. It fosters accountability and can lead to improved efficiency and effectiveness by:

- Exposing areas where improvement is needed
- Identifying good practices process
- Setting targets for improvement
- Encouraging innovation

The ARA supports the Commission recommendation (8.2) that the Australian Federal Government, through Infrastructure Australia, should fund the development and ongoing implementation of a detailed benchmarking framework for major infrastructure projects in Australia. This would substantially assist in the future planning and evaluation of projects, and is an essential factor in the much-cited pipeline of projects. The benchmarking should, at a minimum, include information on tender costs and other procurement outcomes, completion times and final out-turn costs and levels of remuneration and industrial disputation.

The provision of data to support the benchmarking framework should be a requirement attaching to all Australian Government funding for major infrastructure projects. Mechanisms should also be developed to capture similar data from projects funded by other levels of government and considerations should be given to what information might be gathered from the private sector to enhance the quality of information provided by the benchmarking. Importantly this ongoing benchmarking must be seen to be independent of both government and industry influence and also be seen as technically robust and credible.

Productivity and Workforce Skills

Given the need to improve infrastructure provision in Australia, it is crucial that reforms be targeted to improve both the level of productivity in infrastructure construction and its growth rate. Related to these concerns is the more efficient use of existing infrastructure; that is, the productivity of the existing capital stock.

The productivity frontier can be increased with new technologies, including more efficient ways to use resources. While productivity growth in construction has been mostly positive, it still lags behind overall market productivity.

The ARA agrees that the most significant future productivity challenges within the industry include:

- Project definition and procurement approaches
 - Greater clarity of project scope

- Allowance for unforeseen changes
- Collaborative and trust based relationships
- Firm level project management
 - Project management skills and frontline management skills need to be improved, particularly in communication, coordination, logistics and execution.
 - Speedy access to materials and minimisation of repeat work
 - Fragmentation in the supply chain has been noted as an area that needs greater improvement
- Prefabrication and design
 - Offsite building of curtain walls, modular elements, structural steel etc. can increase productivity by reducing disruption on site, and allowing the use of more productive techniques that cannot be used on site
- Some aspects of construction do lend themselves to greater innovation opportunities
 - Increase industry engagement with new technologies which have driven productivity improvements in other sectors.

The ARA agrees that skills shortages affect efficiency and effectiveness of labour, productivity, organizational capability, and increases costs and project delays. There is evidence that skills shortages put upward pressure on wages, as those with skills are highly sought after. Further, attracting and retaining workers is a key issue. Failure to retain workers results in an inexperienced labour force for a particular organization which will be exacerbated by an ageing workforce. The uncertainty of the project pipeline makes building a career in construction extremely precarious. The uncertainty of future projects places the prospect of a long-term career in construction at imminent risk resulting in loss of labour to other industries.

The Commission places emphasis on the need for further training provisions and funding, facilitating apprenticeships and the use of skilled migrant workers. The ARA supports the funding of training and apprenticeships. From the rail industry's perspective, the ARA is facilitating a project to establish a suite of educational and skills programs that have common course materials across Australia. These courses will provide consistent and transferrable experiences and qualifications which will be kept under the collective banner of 'One Track'. The first course released under One Track is the National Track Safety Induction.

Industry collaboration in learning and development is very positive. In 2013, a group of ARA members developed the framework for a diploma in Rail Operations Management. The qualification is now officially recognised as part of the national rail training package. In addition,

there are a number of masters level courses designed for rail specifically, and delivered by various tertiary institutions in Australia.

The ARA believes that efficient training, education and apprenticeships programs are long term solutions that will have significant impact on Australia's productivity.

Social and Environmental Regulation

While there is a range of regulatory standards and codes that are enforced only if and when breaches occur, many social and environmental regulatory protections are also embodied in development assessment and approval processes. Governments typically require the proponents of major projects to obtain various permits and authorisations for the project before proceeding.

Business regulation typically brings with it an array of costs on the regulated entities. Paperwork burden and related compliance costs can arise from the need to:

- Provide management and staff time to keep abreast of regulatory requirements, liaise with regulators, complete forms and assist with audits;
- Purchase and maintain reporting information technology systems;
- Obtain advice from external sources to assist with compliance activities; and
- Obtain licences or accreditation where these are required to perform work.

Regulation can also cause businesses to adjust their process in ways that add to costs. For example, regulatory requirements may limit innovations in the design of infrastructure, or require that more expensive process or materials be used for construction than might otherwise be adopted.

Delays in project approval processes can add to business costs where, for instance, capital workers lay idle or opportunities cannot be seized at the most lucrative time or sequenced in the most efficient matter. Regulatory changes that occur midway through a project can cause significant delays and costs, including by requiring rework and redesign.

The ARA agrees that, although the building blocks for a sound regulatory system are in place, there is still substantial scope to improve Australia's development assessment and approval processes. Some areas, in which we agree with the Commission, that need improvement include;

- Unnecessary complexity and duplicative processes;
- Lengthy approval timeframes;
- Lack of regulatory certainty and transparency in decision making;
- Conflicting policy objectives;
- Inadequate consultation and enforcement; and
- Regulatory outcomes falling short of their objectives.

The ARA supports the wide-ranging reform agenda proposed by the Commission which includes:

- Five steps to move towards a 'one project, one assessment, one decision' framework for environmental approvals, that includes strengthening bilateral assessment and approval agreements between the Commonwealth and States and Territories;
- Limiting the use of 'stop-the-clock' provisions;
- Improving coordination between states and territories regulatory agendas;
- Institutional separation of environmental policy development from regulatory and enforcement functions;
- Enshrining the principle that Ministerial approval, unless a deemed approval, should not be reviewable other than on judicial review grounds;
- Establishing statutory timelines, together with appropriate safeguards, for key decision points in the development assessment and approvals process;
- Expanding the use of Strategic Assessments and Plans where practical to do so
- Requiring that approval authorities publish reasons for their approval decisions and conditions; and
- Improving third party opportunity for compliance.

Case Study – Environmental Regulations Pertaining to Rail

The current environmental regulatory framework relating to rail transport is highly complex and places significant burden on the industry. For some time now, governments have been making decisions on environmental standards without necessarily giving consideration to the limitations and ability of the above or below rail operators to comply with the standards. Some of the limitations are legacy issues that are not easily addressed by the operators.

In addition to this, rail-related environmental issues such as carbon emissions, rail noise and energy use are overseen by separate regulatory regimes within the Commonwealth and State

governments. This multi-jurisdictional legal framework leads to considerable overlap, conflict, and uncertainty. It also leads to unnecessary and avoidable costs to the rail industry and delays to investment, and it increases in the risks associated with investment decisions.

These shortfalls of the current environmental regulations are evidenced in the research conducted by the CRC for Rail Innovation. The CRC's Quantifying the Costs of Environmental Regulation Pertaining to Rail report looked at eight environmental regulation areas relevant to the rail industry, namely Greenhouse Gas emissions, air pollution, noise emissions, energy use, land contamination, flora and fauna, pest management and planning. The research found that the annual direct compliance costs were about \$29 million per annum. Regulatory costs (or burden) were highest for regulation pertaining to land contamination (\$10m), biodiversity (\$7m) and energy use (\$4m). This is because they are areas that affect a large number of businesses. For example, land contamination cost is high because the law applies not only to all corridor infrastructure development and maintenance activities but also to freight and passenger transport activities, whereas less businesses are impacted by pest management regulations.

The CRC report also found that for all of these eight environmental areas, a majority of the regulatory burden is necessary in the sense that it achieves policy objectives that ensure net benefits to society. However, a portion of the burden in relation to four environmental areas, estimated at \$1.5 to \$2.5million, is unnecessary or avoidable in terms of achieving desired environmental outcomes. In other words, five to ten per cent of the cost of environmental regulation pertaining to rail could be considered ineffectual.

These areas are the duplication of emissions and energy reporting, the fragmented and complex New South Wales noise regulation, the inconsistency of biodiversity permits between State and Commonwealth legislation and the inconsistency of land contamination requirements within the same jurisdiction. The report summarised that the indirect costs of regulation are two to four times that of compliance costs, estimated at about \$6 to \$10 million. Therefore, the total unnecessary regulatory burden pertaining to rail environmental regulation is between \$7.5 to \$12.5 million per annum.

This cost is considerable and highly unnecessary. The ARA believes that the Commonwealth and State/Territory governments should facilitate and ensure national consistency for both existing and any new legislation, particularly where multiple systems place unnecessary regulatory burdens on rail operators who operate across jurisdictions.

CONCLUSION

Public infrastructure plays a key role in a competitive and productive economy. The Australian Rail Industry plays an important role in providing passenger and freight transport services for Australia's public and businesses. As such, Australian rail is key to Australia's future productivity and competitive standing on the international stage.

There still remains areas in which the rail sector can improve and this improvement will play a determining role in Australia's economic strength and competitive advantage amongst its neighbours. The Commission has illustrated that further improvement cannot rest purely on public finances, and that new methods of financing will have to be explored. Amongst these methods, the ARA supports the Commission's views that value capture remains a strong and viable method of alternative finance. Value capture has already been implemented around the world and offers a strong and sustainable method of financing future rail infrastructure projects. Furthermore, unlocking the potential of superannuation funds could provide future rail infrastructure projects with the vital capital needed to realise these project's full potential.

The Commission has also addressed the need for improvements to Public Private Partnerships (PPPs) in order to fund major public infrastructure projects. In the past there have been examples of great success with the use of PPPs. On the other hand, there have also been costly ventures which have hurt future projects. Improvement to these partnerships are vital for future rail infrastructure projects.

Major issues in the planning and procurement phase of infrastructure projects have also been discussed. Poorly executed planning and procurement has crippled the benefits of new infrastructure and resulted in major cost blow-outs, jeopardising future projects. Effective Planning and procurement has proven to be instrumental to a project's success and can be seen with the Gold Coast light rail project. Practices which enhance the planning and procurement phase include project benchmarking and Building Information Modelling (BIM). Effective planning and procurement, which results in efficient infrastructure, leaves a lasting legacy of success and encourages future infrastructure projects.

Finally, the Commission has found that some infrastructure regulations cause unnecessary costs to organizations, particularly when similar regulations are embodied in different pieces of legislation. Unnecessary legislation not only increases organisational costs through permit acquiring and standards compliance, they also require organizations to hire more staff or outsource research tasks purely for the regulatory compliance purposes. The rail industry and

the Commission alike view this use of resources as unnecessary and a hindrance on vital infrastructure expenditure. Hindering infrastructure expenditure is costly in the long run, and therefore, processes that can be taken to reduce these costs should be taken.